

Edge Count Programmable Frequency Divider**ABSTRACT**

5 A frequency divider having an input frequency divider, an edge counter, and an output
generator. The input frequency divider generates an intermediate signal having a frequency of f_i
from an input signal having a frequency f_{in} , wherein $f_{in}=2f_i$. The edge counter generates a value
equal to the number of edges in the intermediate signal that have occurred since a reset signal
was generated. The output generator generates an output signal when the edge counter value
10 reaches a value Q and generates the reset signal. In one embodiment, the edge counter includes a
positive edge counter that counts the number of positive going transitions in the intermediate
signal since the reset signal, a negative edge counter that counts the number of negative going
transitions in the intermediate signal, and an adder that generates the sum of the positive and
negative count values.